

REMARKS

Reconsideration of the subject application in view of the present amendment is respectfully requested.

By the present amendment, the Specification has been amended to correct a formal error therein. Claims 2 and 3 have been cancelled. Claims 8-9 have been added. Claim 1 has been amended to yet more clearly define the present invention (marked-up copies of a respective paragraph of the specification and Claim 1 are enclosed).

I. Objection to the Drawing

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) for not showing every feature specified in the Claims, pointing out that the drawings do not show a coating covering the entire stem, as recited in claim 3.

As noted above, Claim 3 has been canceled. Accordingly, the objection to the drawing under 37 C.F.R. § 1.83(a) became moot.

II. Objection to the Specification

The Examiner objected to the disclosure for a formal error therein. As noted above, the specification has been amended to correct the formal error pointed out by the Examiner.

III. Objection of Claims

The Examiner rejected Claims 1, 2, and 7 under 35 U.S.C. § 102(b) as being anticipated by McMurtry, U.S. Patent No. 4,301,338 (McMurtry). Claims 1 and 3-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Eitel, U.S. Patent No. 3,056,867 (Eitel). It is respectfully submitted that claims 1 and 4-7 are patentable over both McMurtry and Eitel.

Specifically, Claim 1 recites a stem having a breaking and a coating that covers at least the region of the breaking point. This is not disclosed in either of McMurtry and Eitel.

In McMurtry, the rubber gaiter 27 serves for preventing the escape of oil along the shaft (column 3, lines 42-45). Further, or more precisely, primarily McMurtry does not disclose a breaking point provided on the stem.

The spigot (24) does not define a breaking point. It is designed to fit the stylus in the probe (column 3, lines 23-24). There is no suggestion in McMurtry that the spigot (24) would break in case an excessive force is applied to the stylus. The spigot (24) performs the same function as the thread (9) (Fig. 2) according to the present invention. Even assuming, *arguendo*, that the spigot (24) is a "breaking point", it is different from the breaking point according to the present invention which is provided in the stem itself.

A rejection based on 35 U.S.C. § 102, as in the present case, requires that the cited reference disclose each and every element covered by the claim. Electro Medical Systems S.A. v. Cooper Life Sciences Inc., 32 U.S.P.Q.2d 1017, 1019 (Fed Cir. 1994); Lewmar Marine Inc. v. Barient Inc., 3 U.S.P.Q.2d 1766, 1767-68 (Fed Cir. 1987); Verdegaal Bros., Inc. v. Union Oil Co., 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The Federal Circuit has mandated that 35 U.S.C. §102 requires no less than "complete anticipation...[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." (emphasis added). Connell v. Sears, Roebuck & Co., 220 U.S.P.Q. 193, 198 (Fed. Circ.

1983); See also, Electro Medical Systems, 32 U.S.P.Q. 2d at 1019; Verdegaal Bros., 2 U.S.P.Q.2d at 1053.

Since McMurtry fails to disclose each and every feature of independent Claim 1, McMurtry, as a matter of law, do not anticipate the present invention, as defined by said independent claim, or make it obvious.

In view of the above, it is respectfully submitted that McMurtry does not anticipate or make obvious the present invention as defined in Claim 1, and the present invention is patentable over McMurtry.

Eitel likewise does not anticipate or make obvious the present invention, as defined by Claim 1.

Eitel discloses a rubber gaiter (28) similar to that of McMurtry. Eitel further discloses a sleeve (29) of "suitable material" provided to electrically isolate the system. No mentioning of a breaking point could be found in Eitel.

In view of the above, it is respectfully submitted that Claim 1 is patentable over Eitel.

Claims 4-8 depend on Claim 1 and are allowable for the same reason Claim 1 is allowable and further because of specific features recited therein which, when taken above and/or in combination with features recited in Claim 1 are not disclosed or suggested in the prior art.

Claim 9 is directed to a coordinate-measuring machine in which a stylus according to the present invention is used, and claim 9 is allowable for the same reasons claim 1 is allowable.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance, and allowance of the application is respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal

respects, in order to place the case in condition for final allowance, then it is respectfully requested that such amendment or correction be carried out by Examiner's amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the undersigned.

Respectfully Submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail and addressed to: Commissioner for Patents, Washington, DC 20231 on February 13, 2003.

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Version with Markings Showing Changes Made

BRIEF DESCRIPTION OF THE DRAWINGS:

The drawings show:

Fig. 1 a schematic view of a coordinate-measuring apparatus in which a stylus according to the present invention is used; and

Fig. 2 an elevational view of a stylus according to the present invention with a synthetic coating.

**DETAILED DESCRIPTION OF THE
PREFERRED EMBODIMENT**

A coordinate-measuring apparatus 1, in which a stylus 2 according to the present invention is used, is shown in Fig. 1. The coordinate-measuring apparatus further comprises a touch probe 3. The stylus 2 is formed of a stem 4, which is made of a hard metal, and a tracer element 5 having a shape of a ground ruby ball. The stem 4 has a breaking point 6 in the region of which, the stem 4 has a synthetic coating 10. The touch probe 3 includes a device which provides for displacement of the stylus 2 in all directions. The calculation of a

traceable point 7 between the tracer element 5 and a tested specimen ⁸ is effected based on the tracing direction X and the position of the stylus 2.

The stylus 2 according to the present invention is shown separately in Fig. 2. As it has already been discussed above, the stylus 2 has a stem 4, a tracer element 5, and a breaking point 6. The stylus 2 also has a thread 9 with which the stylus 2 is screwed into the touch probe 3. As it has further been discussed above, the stylus 2 has, in the region of the breaking point 6, the synthetic coating 10. An application of a breaking force F to the tracer element should lead to breaking of the stylus 2 at its breaking point 6.

The reduction of the breaking force is effected using the so-called notch effect of the breaking point 6. Upon the application of the braking force F, notch stresses appear at the breaking point 6 which are noticeably higher than the stresses in an intact material, without the breaking point.

Advantageously, the synthetic layer 10 should be provided only in the region of the breaking point 6 as the stylus 2 can be broken only at the breaking point 6. This permits to save a valuable material and to reduce the weight of the stylus 2. Naturally, when the stylus is formed without a breaking

WHAT IS CLAIMED IS:

(Amended).

having a breaking

1. A stylus, comprising a stem, and a coating formed of one of point
an elastically deformable synthetic material and a plastically deformable
synthetic material and covering [at least a part of the stem] at least a
region of the breaking point.
2. A stylus as set forth in claim 1, wherein the stylus has a
breaking point, and the coating is applied in a region of the breaking point.
3. A stylus as set forth in claim 1, wherein the coating covers
the entire stem.
4. A stylus as set forth in claim 1, wherein the stem is formed
as a one-piece member.
5. A stylus set forth in claim 1, wherein the coating is formed
as a shrink sleeve that is put on the stem.
6. A stylus, as set forth in claim 1, wherein the one of an
elastically deformable synthetic material and a plastically deformable synthetic
material is an impact-resistant synthetic material.